STN 4/15/04

=> d ibib ab L10 59-63, 66-68

L10 ANSWER 59 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 1999:91587 CABA
DOCUMENT NUMBER: 19990705378
TITLE: Correlation between appearance of embryogenic cells and the IAA levels in rice somatic cell culture
AUTHOR: Chen YiFeng; Zhou Xie; Tang RiSheng; Zhang JinYu; Mei ChuanSheng; Chen, Y. F.; Zhou, X.; Tang, R. S.; Zhang, J. Y.; Mei, C. S.
CORPORATE SOURCE: Agronomy Department, Nanjing Agricultural University, Nanjing 210095, China.
SOURCE: Acta Botanica Sinica, (1998) Vol. 40, No. 5, pp. 474-477. 10 ref.
ISSN: 0577-7496
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 19990707
Last Updated on STN: 19990707

AB A study was made of changes in the endogenous IAA level and IAA effects in cultured rice somatic cells during the period from 7th to the 15th day (the transition from somatic to embryogenic cells). Endogenous IAA contents increased greatly in calli from young panicles under normal osmotic conditions and calli from **mature** caryopses under high osmotic conditions but decreased in calli from **mature** caryopses under normal osmotic conditions. Exogenous IAA induced the appearance of embryogenic cells in non-embryogenic callus at a low frequency, while **TIBA** increased the frequency of embryogenic cell induction. Since 2,4-D was included in all induction media at the same concentration but showed different effects on embryogenic cell induction, it was suggested that it might act through mediating the endogenous IAA metabolism.

L10 ANSWER 60 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 1999:32740 CABA
DOCUMENT NUMBER: 19991602041
TITLE: **Somatic embryogenesis** and plant regeneration in callus culture of tef, Eragrostis tef (Zucc.) Trotter
AUTHOR: Kebebew, A.; Gaj, M. D.; Maluszynski, M.
CORPORATE SOURCE: Debre Zeit Agricultural Research Center, PO Box 32, Debre Zeit, Ethiopia.
SOURCE: Plant Cell Reports, (1998) Vol. 18, No. 1/2, pp. 154-158. 14 ref.
ISSN: 0721-7714
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19990310
Last Updated on STN: 19990310

AB The study was carried out to establish in vitro culture conditions for plant regeneration of tef. **Mature** seeds of two Ethiopian varieties, DZ-01-354 and DZ-01-196, were used to initiate callus cultures on Murashige and Skoog (MS) medium with different auxins. Four- and 8-week-old calli induced on a medium with 2.0 mg 2,4-D/litre were subcultured onto various media to induce **somatic embryogenesis**. Compact, nodulated, embryogenic callus was observed after transfer onto MS-callus proliferating (CP) medium. Embryogenic tissue appeared on soft and amorphous callus and developed into **somatic embryos** during a subsequent subculture to MS embryo-promoting (EP) media. Various growth regulator combinations were tested in CP and EP media to obtain a high efficiency of **somatic embryo** formation. The highest frequency of calli-forming **somatic embryos** (56.1-68.3%) was observed when CP media

with 2.0 or 4.0 mg 2,3,5-**triiodobenzoic** acid/litre were employed and cultures were then transferred to EP media with 0.5 mg 2,4-D and 0.5 mg kinetin/litre followed by 0.5 mg IAA and 0.5 mg N6-benzyladenine/litre. Plant development from **somatic embryos** was obtained on MS medium supplemented with 1.0 mg gibberellic acid/litre. On average, 71.2% of calli displaying **somatic embryos** converted into plants. Regenerated plants were successfully transferred to soil. Neither chlorophyll-deficient plants nor morphological variants were found among regenerants. All regenerated plants were fertile.

L10 ANSWER 61 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 97:127212 CABA
DOCUMENT NUMBER: 19970709105
TITLE: Direct **somatic embryogenesis** and plant regeneration from **mature** sugarbeet (Beta vulgaris L.) zygotic cotyledons
AUTHOR: Kulshreshtha, S.; Coutts, R. H. A.
CORPORATE SOURCE: Department of Biology, Imperial College of Science, Technology and Medicine, Prince Consort Road, London SW7 2BB, UK.
SOURCE: Plant Growth Regulation, (1997) Vol. 22, No. 2, pp. 87-92. 14 ref.
ISSN: 0167-6903
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19971112
Last Updated on STN: 19971112

AB A description is given of an in vitro protocol for direct **somatic embryogenesis** of zygotic cotyledons from **mature** sugarbeet embryos. Explants were sequentially cultured on modified Murashige and Skoog (MS) medium supplemented with different combinations of 2,4-D, NAA, benzylaminopurine [benzyladenine] (BAP) and **TIBA**. **Somatic embryogenesis** was induced within 4 weeks of culture on embryogenesis induction medium which consisted of MS medium supplemented with BAP and **TIBA**. Proliferation of **somatic embryos** was observed on embryo proliferation medium, which consisted of MS medium supplemented with BAP and NAA. Plants were regenerated on hormone-free half-strength MS medium containing a low sucrose concentration. With some sugarbeet lines, frequencies of plant regeneration in excess of 90% were observed. The inclusion of **TIBA** in the media was essential for successful regeneration.

L10 ANSWER 62 OF 69 USPATFULL on STN
ACCESSION NUMBER: 95:78101 USPATFULL
TITLE: Isolated microscope and anther culture of maize
INVENTOR(S): Genovesi, Anthony D., Sycamore, IL, United States
Yingling, Richard A., DeKalb, IL, United States
PATENT ASSIGNEE(S): DeKalb Genetics Corporation, DeKalb, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5445961		19950829
APPLICATION INFO.:	US 1992-992637		19921218 (7)

DISCLAIMER DATE: 20110621
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1990-543957, filed on 26 Jun 1990, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Chereskin, Che S.
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1,11

NUMBER OF DRAWINGS: 18 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 2036
AB This invention relates to the regeneration of fertile monocotyledonous plants from a plant composition that contains microspores. A method of the present invention comprises preculturing a plant composition under a plurality of stressful conditions that promote embryogenesis, isolating microspores at a temperature below about 25.degree. C., culturing the microspores in an embryoid/calli induction medium and regenerating a plant from an embryoid/calli. A solid, porous support system for transferring isolated microspores through a series of subcultures containing different media is also provided. The composition of the media are aspects of the invention.

L10 ANSWER 63 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 95:161490 CABA
DOCUMENT NUMBER: 19951610178
TITLE: **Somatic embryogenesis** from integument (perisperm) cultures of coffee
AUTHOR: Sreenath, H. L.; Shanta, H. M.; Babu, K. H.; Naidu, M. M.
CORPORATE SOURCE: Tissue Culture Division, Coffee Board, Manasagangothri, Mysore 570 006, Karnataka, India.
SOURCE: Plant Cell Reports, (1995) Vol. 14, No. 10, pp. 670-673. 23 ref.
ISSN: 0721-7714
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19950921
Last Updated on STN: 19950921

AB **Somatic embryogenesis** was induced in integument (perisperm) cultures of the C x R genotype S-2569 (derived from the cross Coffea congensis x C. canephora) after a culture period of 15 months, using a sequence of 3 modifications of MS medium. Vigorously growing soft, white, watery crystalline calluses were obtained on MS medium supplemented with 1 mg 2,3,5-**triiodobenzoic** acid (**TIBA**), 50 mg L-cysteine HCl and 100 mg polyvinylpyrrolidone (PVP)/litre. After 45 days the calluses were subcultured to MS medium containing 0.5 mg IAA, 0.05 mg 2,4-D amd 8.6 mg kinetin/litre, on which they were maintained for 9 months. After 5-6 months on this medium callus proliferation slowed down and the calluses turned light brown and compact. When calluses were transferred to MS medium supplemented with 10 mg thiamine HCl, 3 mg pyridoxine HCl, 2 mg nicotinic acid, 0.2 mg 2,4-D and 2.5 mg isopentenyladenine/litre and cultured for 2 months, they turned darker, more compact and proliferation almost stopped. These calluses were subcultured onto fresh medium of the same composition. After another 2 months of culture, cream-coloured, highly friable, embryogenic calluses appeared, which in turn produced a few clearly identifiable **somatic embryos** after a month. Further proliferation and **maturation** of **somatic embryos** was achieved by culturing the embryogenic calluses on MS medium supplemented with 1 mg abscisic acid for 3 months. **Somatic embryos** germinated and regenerated into 2 cm tall plantlets after 2-3 subcultures, each of 2 months duration on half-strength MS medium containing 0.1 mg kinetin/litre.

L10 ANSWER 66 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 92:24520 CABA
DOCUMENT NUMBER: 19920311035
TITLE: Factors affecting morphogenesis from immature cotyledons of Phaseolus coccineus L
AUTHOR: Genga, A.; Allavena, A.
CORPORATE SOURCE: Istituto Sperimentale per l'Orticoltura, 20075 Montanaso L, Milan, Italy.

SOURCE: Plant Cell, Tissue and Organ Culture, (1991) Vol. 27, No. 2, pp. 189-196. 5 pl. 21 ref.
ISSN: 0167-6857
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

AB Direct **somatic embryogenesis** as well as **somatic embryogenesis** and organogenesis mediated by small glossy calluses were obtained from immature cotyledon explants of runner bean, cv. Streamline 770, on a modified half-strength MS medium containing various concentrations of 2iP and 2-naphthoxyacetic acid. Substitution of sucrose with glucose gave, in the range of concentrations tested, the strongest enhancement of the morphogenic process. Further improvement in the number of morphogenic cotyledons, the number of regenerations per cotyledon and the quality of the embryos was observed when **TIBA** or abscisic acid were added to the medium. After cycles of micropropagation on MS medium + 4.4 [mu]M benzyladenine and rooting in the absence of growth factors, plantlets were adapted to ex vitro conditions and grown to **maturity**.

L10 ANSWER 67 OF 69 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1988:441211 BIOSIS
DOCUMENT NUMBER: PREV198886093309; BA86:93309
TITLE: MICROAMPUTATION OF **SOMATIC EMBRYOS** OF THE DOMESTIC CARROT REVEALS APICAL CONTROL OF AXIS ELONGATION AND ROOT REGENERATION.
AUTHOR(S): SCHIAVONE F M [Reprint author]
CORPORATE SOURCE: PLANT DEV LAB, DEP BOTANY, UNIV MARYLAND, COLLEGE PARK, MD 20742, USA
SOURCE: Development (Cambridge), (1988) Vol. 103, No. 4, pp. 657-664.
CODEN: DEVPED. ISSN: 0950-1991.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 4 Oct 1988
Last Updated on STN: 4 Oct 1988

AB Somatic heart- and torpedo-stage embryos of the domesticated carrot, Daucus carota L., were severed at their midlengths to produce two halves termed apical and basal pieces. These pieces may be grafted or kept separate. Grafted embryos developed normally, with the exception that they tended to **mature** earlier than uncut control embryos. If kept separate, the apices grew at rates similar to grafted apices, while the basal ends, behaving as if they had been released from an inhibition of growth, rapidly elongated and **matured** (e.g. produced root hairs and a root cap) 3-4 days earlier than uncut controls. Grafted embryos treated with the transport inhibitor **TIBA** (2,3,5-**triiodobenzoic** acid) had basal sections that behaved as if the sections had been kept separate. Additionally, resupplying IAA (indole-3-acetic acid) via a novel wick-bridge forced isolated basal pieces to behave as if the embryo apex were present. This apparent inhibition of root growth by the apex appears to be controlled by either the polar transport of auxin, and/or the accumulation of auxin at the root end. These experiments suggest that polar auxn transport has a greater influence on root, rather than on apex, development in these embryos.

L10 ANSWER 68 OF 69 CABA COPYRIGHT 2004 CABI on STN
ACCESSION NUMBER: 87:35635 CABA
DOCUMENT NUMBER: 19871660241
TITLE: Embryogenic callus induction and plant regeneration from cultured Hordeum vulgare **mature** embryos

AUTHOR: Rengel, Z.
CORPORATE SOURCE: Dep. Plant Nutrition, Fac. Agric. Sci., Univ. Zagreb, 41 000 Zagreb, Yugoslavia.
SOURCE: Plant Physiology and Biochemistry, France, (1987) Vol. 25, No. 1, pp. 43-48. 21 ref.
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: French
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101

AB When nonembryogenic calluses induced on embryos of 8 barley lines cultured on modified Murashige & Skoog (MS) medium supplemented with 2,4-D were subcultured on the same medium, embryogenic callus was formed in 7 of the lines. **Somatic embryoids**, some of which resembled zygotic embryos, appeared on the surface of the embryogenic callus, and plants were regenerated on modified MS medium with **TIBA**. Genotypic differences in callus induction frequency were significant, but these differences are attributed to genotype X medium interactions and differences in the physiological status of donor plants; it is thought that all genotypes are able to respond in culture under appropriate conditions.

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(FILE 'HOME' ENTERED AT 15:58:02 ON 15 APR 2004)

INDEX 'AGRICOLA, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHNO, CABA, CAPLUS, CBNB, CIN, CONFSCI, CROPB, CROPU, DISSABS, ESBIOBASE, FEDRIP, FOMAD, FOREGE, FROSTI, FSTA, GENBANK, IFIPAT, INVESTEXT, LIFESCI, NAPRALERT, NTIS, PASCAL, PHIC, PHIN, PROMT, SCISEARCH, ...' ENTERED AT 16:04:08 ON 15 APR 2004
SET DETAIL ON
SEA PCIB ORCHLOROPHENOXYISOBUTYRIC OR TIBA OR TRIIODOBENZOIC OR

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303 FILE AGRICOLA
48 FILE BIOBUSINESS
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L7             0 S L5 AND EMBRYONIC(W)CELL(W)MASS
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L9            69 S L5 AND L8
L10           69 DUP REM L9 (0 DUPLICATES REMOVED)

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